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M. Vikram Rao

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/631,954  
Filing Date: July 30, 2003  
Appellant(s): RAO, M. VIKRAM

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Elizabeth Durham  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 10, 2007 and amended appeal brief filed April 17, 2008 appealing from the Office action mailed August 10, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the amended brief (filed April 17, 2008) is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. However, the remark "The rejections are improper" is misplaced. "The statement cannot include any argument concerning the merits of the ground of rejection presented for review. Arguments should be included in the 'Argument' section of the brief." See MPEP 1205.02 (vi).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,913,643                      DEJAIFEE                                      7-2005

Academic Press Dictionary of Science and Technology

Dictionary of Physical Geography

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by the Dejaiffe patent (US 6,913,643).**

Claim 1: Dejaiffe teaches a lightweight aggregate comprising silica and alumina (abstract). The alumina is present in an amount of 8-14 wt% (col. 4, lines 5-8). The aggregate comprises typical large and small sizes (col. 5, lines 1-13). The smaller sized aggregate has approximately the size of sand (col. 5, lines 8-10). Typical dimension for sand is about 50  $\mu$ m to 2 mm as defined in the Academic Press Dictionary of Science and Technology (see attachment 1A) and the Dictionary of Physical Geography (see attachment 1B). Therefore, the aggregate falls within the broad claimed size range of 8 mesh or smaller (8 US mesh is about 2.40 mm particle size). The aggregate contains voids (col. 5, lines 8-10 and 21-23). The method of making aggregates as taught by Dejaiffe comprises pelletizing and subsequently firing (i.e. sintering) a glass composition

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the glass composition is a combustion product. See Dejaiffe, col. 4, lines 58-65 and col. 5, lines 7-12. These process steps inherently produce particulates that are substantially spherical. This inference fact is actually acknowledged by Appellant. At page 7 paragraph 25 of the instant specification, it's stated: "When such combustion products are pelletized and sintered, they produce particulates that are substantially spherical and that exhibit specific gravities of below about 2.2." Here, the glass composition is a combustion product and the glass is pelletized and sintered to form the aggregate of Dejaiffe. Therefore, not only aggregates of Dejaiffe possess spherical shape, they also exhibit specific gravities of below 2.2 as claimed.

Claims 2-3: See col. 4, lines 5-10

Claim 4: See col. 6, lines 30-32.

Claim 5: See col. 5, lines 45-50 (bottom ash and fly ash).

Claim 6: See rejection to claim 1.

Claim 7: considered met by inference because the Dejaiffe aggregate comprises the same composition as the claimed particulate. See rejections in claims 2-5 above.

Claim 8: See col. 5, lines 34-37.

Claim 9: See col. 5, lines 8-10 and 21-23.

Claim 10: See rejection to claims 1 and 9 above.

Claims 11-12: See col. 4, lines 5-10

Claim 13: See col. 6, lines 30-32

Claims 14-17: See rejections to claims 6-8 above.

## **(10) Response to Argument**

### **A. Response to Appellant's argument that Dejaiffe fails to disclose aggregates having a substantially spherical shape as required in the instant claims.**

**A.1.** "Substantially spherical shape" is defined in Appellant's specification at page 7, paragraph [025] as having an aspect ratio of 0.7 or greater. Although Dejaiffe does not explicitly disclose the shape of the aggregates, the spherical shape of the aggregates is a necessarily inherent product by the process of making the aggregates disclosed in Dejaiffe patent. The process of making aggregates comprises forming a glass composition by heating a mixture of glass and foaming agent in the presence of oxygen (Dejaiffe, col. 4, lines 59-56), pelletizing and firing the glass composition to form the aggregates (col. 5, lines 7-12). The process of pelletizing and sintering a combustion product inherently produces particulates that are substantially spherical and exhibit specific gravities of below 2.2. This inherence fact is acknowledged in Appellant's own specification. At page 7, paragraph [025] of the instant specification, it is stated that:

When such combustion products are pelletized and sintered, they produce particulates that are substantially spherical and that exhibit specific gravities of below about 2.2.

(emphasis added)

Here, the glass composition is a combustion product because it is formed from a burning reaction in the presence of oxygen (see Dejaiffe, col. 4, lines 58-65).<sup>1</sup> The combustion product (i.e. glass composition) is then pelletized and sintered (see Dejaiffe,

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<sup>1</sup> See claims in the US Patent Application Publication No. 2003/0084683 A1 (see attachment 4). It is noted that the glass composition described at col. 4, lines 58-65 of the Dejaiffe patent is a product of the process disclosed in US Patent Application No. 10/011,944, which is published as the US Patent Application Publication No. 2003/0084683A1.

col. 5, lines 7-12). Therefore, it is necessarily inherent that the product produced by such process is particulates that are substantially spherical.

In addition, Dejaiffe states that the aggregates are formed by pelletizing (col. 5, lines 7-12). Pelletizing is a process of making into pellet (see attachment 3A), and pellet is defined in the Webster's Dictionary as a "small round or spherical body" (see attachment 3B). Therefore, the aggregates taught by Dejaiffe are substantially spherical; that is having an aspect ratio of 0.7 or greater as defined in Appellant's specification having an aspect ratio of 0.7 or greater.

**A.2.** Appellant argued that the process disclosed in Dejaiffe does not necessarily produce particulates having a substantially spherical shape. To support this argument, Appellant cites Randall M. German in "Sintering Theory and Practice" and the US patent No. 3,125,794. Relying on German's Sintering Theory and Practice, Appellant states that "the processes of sintering and pelletization may produce aggregates of different shapes." (emphasis added). However, pelletization is NOT discussed anywhere in the German's article cited by Appellant. Because the process in the German's article misses the critical pelletizing step, it is not the same as the process taught by Dejaiffe. Therefore, the aggregates derived from the German's sintering process cannot be comparable to the product produced by the process taught the Dejaiffe patent. With regard to the US patent 3,125,794, the Examiner questions the relevance of this patent to the process taught by Dejaiffe. The patent 3,125,794 teaches a method of making pellets by molding from a strip or ribbon. A strip or ribbon is not a combustion product,

and molding is not pelletization and sintering. Therefore, this patent has nothing to do with the process taught in the Dejaiffe patent, or the process disclosed in the instant specification. And thus it proves nothing.

**A.3.** Appellant argued that the Examiner “improperly relies on Appellant’s specification to erroneously conclude that the aggregates in *Dejaiffe* inherently have a substantially spherical shape.” Contrary to Appellant’s assertion, it’s proper to rely on Appellant’s disclosure as an admission of inherency. In Appellant’s own specification, it is acknowledged that pelletizing and sintering a combustion product would produce aggregates having a spherical shape (instant specification page 7, paragraph [025]). Here, *Dejaiffe* teaches pelletizing and firing a glass composition to form aggregates wherein the glass composition is a combustion product (formed by burning in oxygen). Therefore, it is necessarily inherent that the resulting aggregates would have a spherical shape as a result of pelletizing and sintering. Additionally, it is known that pelletizing is a process of making into pellet and pellet by definition is a small round or spherical body; and it is also known in the art that sintering is to further improve the existing shape of particulates. Therefore, pelletizing and sintering in that order would necessarily produce substantially spherical aggregates. Thus, what Appellant states at paragraph [025] of the instant specification is an admission of inherency and reliance on it is permissible.

More importantly, a recent litigation affirms the trial court decision that **“if a layer would form in situ every time a process is followed, the layer is an inherent**



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**property of the process, even if unrecognized".** In re Omeprazole Patent Litigation - Astra Aktiebolag, Aktiebolaget Hassle, Astra Merck Enterprises Inc., Astra Merck Inc., Kbi-E, Inc., Kbi, Inc., And Astrazeneca LP v. Andrx Pharmaceuticals, Inc., And Genpharm, Inc., Kremers Urban Development Co., And Schwarz Pharma, Inc. (Fed Cir, 04-1562,-1563,-1589, 4/23/2007). See attachment 5, paragraph bridging pages 14 and 15. Here, from Appellant's admission of inherency, substantially spherical particulates would form in situ every time a process, namely pelletizing and sintering, is followed; therefore, substantially spherical shape is an inherent property of the pelletizing and sintering process even if unrecognized. Furthermore, in Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc., 246 F.3d 1368, 1376 (Fed. Cir. 2001), it is decided that newly discovered results of known processes are not patentable if those results are inherent in the known processes. Here, the known processes are pelletizing and sintering, and the newly discovered result is the substantially spherical shape of the resulting aggregates. Therefore, substantially spherical shape as claimed should not be patentable because it is an inherent result in the known processes disclosed in the Dejaiffe patent.

**B. Response to Appellant's argument that Dejaiffe cannot anticipate claims 1-9 because Dejaiffe does not disclose a particle size of 8 U.S. Mesh or smaller, as required in independent claim 1.**

8 US mesh is about 2.38 mm particle size (see attachment 2). Dejaiffe teaches lightweight aggregate comprising typical large and small sizes (col. 5, lines 1-13). The smaller sized aggregate has approximately the size of sand (col. 5, lines 8-10). Typical

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dimension for sand is about 50  $\mu\text{m}$  to 2 mm as defined in the Academic Press Dictionary of Science and Technology (see attachment 1A) and the Dictionary of Physical Geography (see attachment 1B). Therefore, the aggregates of sand-dimension taught by Dejaiffe fall within the claimed broad size range of 8 mesh or smaller.

**C. Response to Appellant's argument that Dejaiffe cannot anticipate dependent claims 6 and 15 because Dejaiffe does not disclose particle size of 25 U.S. Mesh or smaller, as claims 6 and 15 recite.**

25 US mesh is about 710  $\mu\text{m}$  particle size (see attachment 2). Dejaiffe teaches a lightweight aggregate comprising typical large and small sizes (col. 5, lines 1-13). The smaller sized aggregate has approximately the size of sand (col. 5, lines 8-10). Typical dimension for sand ranges from about 50  $\mu\text{m}$  to 2 mm as defined in the Academic Press Dictionary of Science and Technology (see attachment 1A) and the Dictionary of Physical Geography (see attachment 1B). Therefore, the aggregates of sand-dimension as taught by Dejaiffe encompass the claimed size range of 25 mesh or smaller.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/H. Thi Le/

Hoa Le

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